

1
cgactggagcagcaggacactgacatggactgaaggagtagaaagggtttaaaaaacccagtttgagaa ATG TCT AAG TCT GGG CTT CAT CTT
M S K S G L H L

93
GTA GCC TAC ATA TTA TTG ATA TTT TTA ATT TCA ACT AAT ATA GCA TCT AAA ATT TCT GGT GTT CCA TTA TGC AAC
V A Y I L L I F L I S T N I A S K I S G V P L C N

168
AAA GAT ACT TCA CCA GTA TTT ACA CTT CAA CAT AAT TCT ACT AAT GGT ATT TTA GCT AGA TCT CTT CCA CAA CCA
K D T S P V F T L Q H N S T N G I L A R S L P Q P

243
GGA TTA ATT GAT TGT TCA GAA CAT TGT TCC TCT TCG TCA GAT TGT ATT GGC GTT GAA TAT TGG CAG GGA ATT TGT
G L I D C S E H C S S S S D C I G V E Y W Q G I C

318
AGA GTT ATT TCT CAA GAT AAA ACT TCT ATT TAT ACA CCA ACA GAT GAA ACT TCA ATA CTT TTA ACA AAA TCA TGT
R V I S Q D K T S I Y T P T D E T S I L L T K S C

393
GTT AAA AGT GAT CGT ATA TGT TCA TCA CCA TTC CAT TTT GAT GTT TAT GAA CAA AAA ATA TTA GTT GGA TTT GCT
V K S D R I C S S P F H F D V Y E Q K I L V G F A

468
AGA GAA GTT GTA CCA GCT GAG TCT ATT GAA ATT TGT ATG GCT GCT TGT TTG AAT GCT TTT GAT ACA TAT GGT TTT
R E V V P A E S I E I C M A A C L N A F D T Y G F

543
GAA TGT GAA TCA GCT ATG TAT TAT CCA GTT GAT AGT GAA TGT ATT CTT AAT ACT GAA GAT AGA CTT GAT CGA CCA
E C E S A M Y Y P V D S E C I L N T E D R L D R P

618
GAT CTT TTT GTT GTT GAA AAA GAA GAT GTT GTT TAT TAT CTT GAT TCT AAT TGT GCT GGT TCA CAA TGT TAT GCT
D L F V V E K E D V V Y Y L D S N C A G S Q C Y A

693
CCA TAC ATT ACA CAA TAT ATT GCT GTT GAA AAT AAA CAA ATA GAA AAT GAA TTA GAT AGA AAA TTT GAA AAT ATT
P Y I T Q Y I A V E N K Q I E N E L D R K F E N I

768
GAT TTC CAA ACA TGT GAA GAA TTA TGT ACT GGT AGA ATT ACT GTT ACA CAA AAT GAT TTT ACT TGT AAA TCA TTT
D F Q T C E E L C T G R I T V T Q N D F T C K S F

843
ATG TAT AAT CCT GAA ACA AAA GTT TGT TAT CTT TCT GAT GAA CGT TCA AAG CCT CTT GGA CGG GCT AAA TTA AGT
M Y N P E T K V C Y L S D E R S K P L G R A K L S

918
GAT GCT AAT GGA TTT ACT TAT TAT GAA AAA AAA TGT TTT GCA TCT CCA AGA ACA TGC CGT CAA ACA CCA TCA TTT
D A N G F T Y Y E K K C F A S P R T C R Q T P S F

993
AAT AGA GTA CCA CAA ATG ATT CTT GTT GGT TTT GCT GCA TTT GTT ATG GAA AAT GTA CCA TCT GTT ACT ATG TGC
N R V P Q M I L V G F A A F V M E N V P S V T M C

1068
CTT GAT CAA TGT ACA AAT CCA CCA CCA GAG ACA GGT GAA AAA TTT GTC TGT AAA TCT GTT ATG TAC TAT TAT AAT
L D Q C T N P P P E T G E K F V C K S V M Y Y Y N

1143
GAA CAA GAA TGT ATT CTT AAT GCT GAA ACA AGA CAT ACA AAG CCA GAT CTT TTT ATT ACA GAA GGA GAT GAA TTT
E Q E C I L N A E T R H T K P D L F I T E G D E F

1218
CTT GTT GAT TAT TTT GAT ATT TCA TGT CAT CTT GAA CCA GAA ACA TGT CCT AAA GGA ACA TAT TTA AAA GGA ATT
L V D Y F D I S C H L E P E T C P K G T Y L K G I

1293
AAA TCT ATC AAT TCT GCA CTT CCT GAG GGT GAA GGC TCA CTT CAT GTT ATT GAG TCT GCT GGA AAA TCA TTA GAA
K S I N S A L P E G E G S L H V I E S A G K S L E

1368
GAA TGT ATG GAA AAA TGT AAC CAA CTT CAT CCA GAA AAA TGT AGA TCA TTT AAT TTT GAA AAA TCA TCT GGA TTA
E C M E K C N Q L H P E K C R S F N F E K S S G L

1443
TGT AAT CTT TTA TAT CTT GAT GGA AAA AAT ACT TTA AAA CCA TTT ATT AAA AAT GGA TTT GAT CTT GTT GAT TTA
C N L L Y L D G K N T L K P F I K N G F D L V D L

FIG. 1A

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1518
CAA TGT TTA TCA ACT AAA AAA GAT TGC TCT ACA AAA AAG AAT GAT ATT AAT TTT GTT AAA TAT CTT TAC TCT CAT
Q C L S T K K D C S T K K N D I N F V K Y L Y S H
1593
TTT GTT AAA TAT CTT TAC TCT CAA CAA CCT GGA ATT CCA ACA AAA ACA GAA AAA GTT ATT GGT ATT TCT AAA TGT
F V K Y L Y S Q Q P G I P T K T E K V I G I S K C
1668
CTT GAT TTA TGT ACT GAT AGT GAA CGT TGT GAA GGA CTT AAT TAT AAT AGA AGA ACT GGA GAA TGT CAA TTA TTT
L D L C T D S E R C E G L N Y N R R T G E C Q L F
1743
GAA ATT ATT GAT GGA CCT TCT AAT CTT AAA AAA TCT GAG CAT ATA GAT TTT TAT CAA AAT CTT TGT TCT ACT AAA
E I I D G P S N L K K S E H I D F Y Q N L C S T K
1818
GAA AAT GAA GCT GGT GTT TCA TCT GCA TTA AAT GTA CCA CAA TCA TCT GTT ATT CCT ATT TCA TCA TCA CAA AAT
E N E A G V S S A L N V P Q S S V I P I S S S Q N
1893
ATT AGT AAA AGT GAT GTT TTT GCC AAA AAA AAT CTT AAT AAA GAT GGT AAT AAT CAA GTA AAC ATT TAT GAA CCA
I S K S D V F A K K N L N K D G N N Q V N I Y E P
1968
GAA AAA AAA TAC CAT CCA AAA GGA TCA AAA AAT GAA ACA TCA TAT GAA ACA GGA ACT GTA AAT AAA TCA AAT GTT
E K K Y H P K G S K N E T S Y E T G T V N K S N V
2043
GAA GAG GTT TCT GAA ACT TTA ACT AAT AGT GGA GTT GAA AGT GGA AGT CTT GAA AAA AAT ATT ATT ACA GCA CCA
E E V S E T L T N S G V E S G S L E K N I I T A P
2118
CCA TCT ATA CCA AAA ATT CCT GAA GGT CCA CTA CCA GTG CCA ATT TTA ATT CCA GCT GAT CAA GTA CAA ACT ATT
P S I P K I P E G P L P V P I L I P A D Q V Q T I
2193
TGT GAT TAT GAA GGT ATT AAA GTA CAA ATT AAA TCA CCA CAA TCA TTT ACT GGT GTT ATC TTT GTT AAA AAT CAC
C D Y E G I K V Q I K S P Q S F T G V I F V K N H
2268
TAT GAA ACA TGT CGT GTT GAA GTT TCC AAC TCT GAT GCA GCT ACT CTT GAG CTT GGT CTT CCA GCT TCA TTT GGA
Y E T C R V E V S N S D A A T L E L G L P A S F G
2343
ATG AAA CCA GTT ACA CTG TCT GCT ACA TCT TCA GAT TCT ACC TCT TCA CAG AAT ATT ACT TCT AAT AGT GGA CAT
M K P V T L S A T S S D S T S S Q N I T S N S G H
2418
AAA GTT GTT GGA AGA GCA CGC CGT GAT ACA CAA GAA AAA TCT TGT GGT CTT ACA GAA ATT GAA AAT GGA AAA TAT
K V V G R A R R D T Q E K S C G L T E I E N G K Y
2493
AAA AGT ACT GTT GTT ATA CAA ACA AAT AAC CTT GGA ATT CCT GGA CTT GTA ACA TCA ACA GAT CAA ATT TAT GAA
K S T V V I Q T N N L G I P G L V T S T D Q I Y E
2568
ATT GGT TGT GAT TAT AGT AGT ATG TTA GGA GGA AAA ATT ACT ACA GCA GCT AAT ATG ACT GTA AAT GGA CCA ACA
I G C D Y S S M L G G K I T T A A N M T V N G P T
2643
CCA ACT GAT ATT AAA CCT AGA GGT AAA ATT GAA CTT GGA AAT CCT GTT CTT ATG CAA ATG AAT GCT GGT ACA GGT
P T D I K P R G K I E L G N P V L M Q M N A G T G
2718
GAT CAT CAG CCA ATT TTA CAA GCT AAA CTT GGA GAT ATT CTT GAA TTA AGA TGG GAA ATT ATG GCT ATG GAT GAA
D H Q P I L Q A K L G D I L E L R W E I M A M D E
2793
GAA CTT GAT TTC TTT GTT AAA GAT TGT CAT GCA GAA CCT GGT ACT GGT GCT GGA GGA GAT GAA AAA CTT CAG CTT
E L D F F V K D C H A E P G T G A G G D E K L Q L
2868
ATT GAA GGT GGA TGC CCA ACA CCA GCT GTT GCT CAA AAA CTT ATT CCA CAA CCA ATA AAA TTA CAA TCA TCA GCT
I E G G C P T P A V A Q K L I P Q P I K L Q S S A
2943
GTC AAA ATT GCC CAT CTT CAA GCT TTC CGT TTT GAT TCA TCC TCT TCA GTT AGA ATA ACA TGT AAT ATT GAA ATT
V K I A H L Q A F R F D S S S S V R I T C N I E I
3018
TGT AAG GGA GAT TGT AAA CCA GCA ACA TGT GAT ATG CAC GGA GAA TCA AAA CAA TCA TGG GGA AGA AAA AAG AGA
C K G D C K P A T C D M H G E S K Q S W G R K K R
3093
CAT ATT GAA GAT GAT ACA ATT ACA GAA TTT GAG ACA AAT CGT TAT AAA GTT CCA AGA TTT TCA CAA GCA ACA ACA
H I E D D T I T E F E T N R Y K V P R F S Q A T T

FIG. 1B

3168

TCT CTT TTA ATT CTT GAT CCA CTT CAA AAT AAC ATT GAA CCA GCA TCA TTA ATG TCA AAA GTA TCA TCT CTT GAT
S L L I L D P L Q N N I E P A S L M S K V S S L D

3243

TTG TTA GCT GAA GAT CCT GCA AAA ACA TTA CTT AAG ATT AAA GAG ACT GCA CAT TTG AAT GGA AAT CTT TGT ATG
L L A E D P A K T L L K I K E T A H L N G N L C M

3318

GGA AAA ATT ACA CTT TTC TCA GTA TTT GGT GTT CTT CTT TCA TTA ATT GTT GTT CAA GCA ATT GTC GTA ACA AAT
G K I T L F S V F G V L L S L I V V Q A I V V T N

3393

TAT ATT TTT AAA AGA GTT ATG TCA AGC AGA AAG ATT ACC AAT TAAactttaataattaacaataattataaatatgcctttatgt
Y I F K R V M S S R K I T N

3479

tctcaaaacgagtataatcctttttttgttattaatttttagtatcaaaatatatacccgatggcatttacaataataataaatacaactgaagaaag

3579

ctataatatgaaccgtgccagaaacttattcaaagttttaatctctctctctctcttctaatttcctttcaaaacattccattttttttttgttt

3679

ttatttaatacaaaaaataataattaatagtaatttatgatatatcattaatatttttataatatttttttg

FIG. 1C

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1
ggcaccgagaa ATG AAC TGG CTA TCT ATA GCT TCA ATT TGT ACA TTC TTA ATT ATA CCA ATA TCT GCT GTC TTT GAA
M N W L S I A S I C T F L I I P I S A V F E
77
TGT TCA GGA TCA GAA ACT ACA GCA TTT ATT AGA ATA TCC AGA GCA CGC CTT GAT GGG ACA CCA GTA GTT ATT TCT
C S G S E T T A F I R I S R A R L D G T P V V I S
152
ACA GCA GGA CAT GAC TTG ACT TGT GCA CAA TAT TGT AGA AAT AAT ATT GAA CCA ACA ACT GGT GCT CAA CGT GTC
T A G H D L T C A Q Y C R N N I E P T T G A Q R V
227
TGT GCA TCA TTT AAT TTT GAT GGT CGT GAA ACA TGC TAC TTT TTT GAT GAT GCT GCC TCA CCT GCT GGG ACT GGG
C A S F N F D G R E T C Y F F D D A A S P A G T G
302
GAG TTG AAT GAA GCA CCA TCA GCT AAT AAT TTT TAT TAT GAA AAA GTT TGC CTT CCA GCT ATC TCT GCT CAT GAA
E L N E A P S A N N F Y Y E K V C L P A I S A H E
377
GCA TGT ACT TAT AGA TCA TTT TCA TTT GAA AGA ACT AGA AAT ACT CAA TTA GAA GGT TTT GTT AAA AAA TCA CTA
A C T Y R S F S F E R T R N T Q L E G F V K K S L
452
CAA GTT ACA TCA CGT GAA GAA TGC CTT TCT ACA TGT TTA AAA GAA AGT GAA TTT GTA TGT AGA TCA GTT AAC TAT
Q V T S R E E C L S T C L K E S E F V C R S V N Y
527
AAT TAT GAA AAC TTT ATG TGT GAA CTT TCA ACA GAA AGA TCG CGT TCT AAA CCA CAA AAT ATG AGA ATG TCA GCA
N Y E N F M C E L S T E R S R S K P Q N M R M S A
602
GCT CCA GTT GAT TAT TAT GAT AAT AAT TGT TTA AAT AGA CAA AAT AGA TGT GGT GAA TCT GGT GGA AAT TTG ATT
A P V D Y Y D N N C L N R Q N R C G E S G G N L I
677
TTT ATT AAA ACA ACA CAA TTT GAA ATT CAT TAT TAT GAT CAT ACT CAA TCA ATG GAA GCA CAA GAA TCA TTC TGT
F I K T T Q F E I H Y Y D H T Q S M E A Q E S F C
752
TTA CAA AAA TGT TTA GAT TCA TTA AAC ACC TTC TGT AGA TCT GTT GAA TAT TCT CCA TCT GAA AAA AAT TGT ATT
L Q K C L D S L N T F C R S V E Y S P S E K N C I
827
GTT TCT GAT GAA GAT ACA TAT TCA AGA GCT GAT CAA CAA GGT GAA GTT AAT AAT AAA GAT TAT TAT GAA CCT GTT
V S D E D T Y S R A D Q Q G E V N N K D Y Y E P V
902
TGT GTT GCT GCT GAT CTT AGT TCA TCT ACA TGT CGT CAA CAA GCT GCT TTT GAA AGA TTT ATT GGT TCT GCT ATT
C V A A D L S S S T C R Q Q A A F E R F I G S A I
977
GAA GGT ACC CCA GTT GCT ACA GCA CAA CAA GTA ACC ATT TCT GAT TGT ATT TCA CTT TGT TTC CAA AAT TTG AAT
E G T P V A T A Q Q V T I S D C I S L C F Q N L N
1052
TGT AAA TCA ATT AAT TAT GAT CGT ACA CAA TCT ACA TGT TAT ATT TAT GCT GTT GGA AGA CAA GAA TCT AAT GTT
C K S I N Y D R T Q S T C Y I Y A V G R Q E S N V
1127
AAA AAT GAT GCA AGT TTC GAT TAT TAT GAA TTT ACA ATT ATT GAT AAT GGA TGC CCA AGA TAT CCT GCT CTT GTA
K N D A S F D Y Y E F T I I D N G C P R Y P A L V
1202
GGG CCA GTT TTA CAA GAT TTC GAC AAA AAT CGT CTT AAA TCT GAA ATG AAA GCA TTC CGT TTA GAT GGA TCA TAT
G P V L Q D F D K N R L K S E M K A F R L D G S Y
1277
GAT ATT CAA ATT GAA TGT TCT GTT ATG TTT TGT GCT GGT CCA ATG GGT TGT CCA CCA TCT AAT TGC CTT GAT TCA
D I Q I E C S V M F C A G P M G C P P S N C L D S
1352
GGA ACA AAT GAA TTA TTT GCT TCA CAT GGA AGA AAG AAA AGA AGT ATT GTT GAT TTC AAA AAT ACA ACA ACA TCT
G T N E L F A S H G R K K R S I V D F K N T T T S
1427
GCA GAA ACA TTA TCT GCT ATA ATT AGA GTA CTT GCT GCT GGA GAA GAA GAA TTA GAA GTT GAA GAA TTT TAT AGA
A E T L S A I I R V L A A G E E E L E V E E F Y R
1502
AAT GAT ACT AAT TTT AAA TAT GAT TCT GAA GAA AAT ATC TCA GCT CAT AAC TTA TAC TGT ATG TCT GAA ATG TGG
N D T N F K Y D S E E N I S A H N L Y C M S E M W

FIG. 2A

1577

TTT GTA TCA GGA ATT GTT TCA ATG GCT ATG ATC TGT CTT CTT CTT TCT GTT CTT ATA GTT ATG TGG GGC TGT CAT
F V S G I V S M A M I C L L L S V L I V M W G C H

1652

TCA TTA AAT CAA TCT TCA AAA TTA CCA ATG TGAaggaagatctttcaacaaaaaaaaacgattaatttttaatatatttctttaatatatac
S L N Q S S K L P M

1742

attccataatcagtatataactataataattgcaacataataatttattgtagaagtctgtttataaaatcaaatcacaaattttcttttacagtactgt

1842

gcacaacaacaagaaattccaatctcttcctatatatttgatgtcgtagacacggtttataaaaacaaattcttttggttttaatacagttttcagtttaca

1942

tttatataat

FIG. 2B

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1
gcgcgatagtcgcgattttttaaggtttaattaccaagcttaaggaatatttgaagcttatttttaagaaaaataaattaaataagagattagcaca

101
acaacaacagaaatttttcttgaatttacaacaaaataatttttcttaattaaattcctttaattatccacaacttct ATG GTT ACA AAA ATC
M V T K I

196
CCA ACT TTT CCC CTC CTT TTT ATT TTC CCA TTT TTA TTT ACA TTT TTA ACG ACA AAA TGT CAG GCT TAT TCT ATA
P T F P L L F I F P F L F T F L T T K C Q A Y S I

271
CCA TTA ATA TCA GAA TGT AAT TCG GAA GAA GCC CCA GTT TTT CTT TTG CAA CGG AAT GTT TCT TCT ATC GCC GGA
P L I S E C N S E E A P V F L L Q R N V S S I A G

346
ACT GAG CCT TTA AGA ACT GTT CCT GTT ACA GGG GGA TTT TTG GAA TGT GCG GAA CTT TGT TCA GCA GCA AAT AAT
T E P L R T V P V T G G F L E C A E L C S A A N N

421
TGT GTT GCT GTT AAA TTT TCT ATT GAA AAA CAA TGC CAA TTG TTG GGG AAA ACA ACT ATG ACA GCA ACA ACT TTA
C V A V K F S I E K Q C Q L L G K T T M T A T T L

496
TCT TTA CAA GAC ATT AAT TTG ACA CTA GCT AGA TTA GCT ACT AAA AGT TGT GTT AAG AGC AAA AAA ATC TGT TCT
S L Q D I N L T L A R L A T K S C V K S K K I C S

571
TCC CCC TTC CAT TTT GAT GTT CAC GAA CAA AAA ATA CTT GTT GGT TTT GCT AGA GAA GTT GTA TCA GCA GAA TCT
S P F H F D V H E Q K I L V G F A R E V V S A E S

646
ATA CAT CAA TGT TTA ACT GCT TGT TTA GAT GCT GTT GAT ACT TTT GGC TTT GAA TGC GAG TCA GTA ATG TAT TAT
I H Q C L T A C L D A V D T F G F E C E S V M Y Y

721
CCA TTG GAT GCC GAA TGT ATT TTA AAT ACA GAA GAC AGA CTT GAC CGT CCA GAT TTG TTT GTT GAT GAG AAG GAA
P L D A E C I L N T E D R L D R P D L F V D E K E

796
GAT ACT GTT GTT TAT TTG GAT AAT AAT TGT GCT GGA TCC CAA TGT CAT GCC CCT TAT GTA ACC CAA TAT GTA GCT
D T V V Y L D N N C A G S Q C H A P Y V T Q Y V A

871
GTT GAA GGA AAA CAA TTA GCT GAG GAA TTG GAT CAT AAT TTT GAG GGA ATG GAG TTG ACA GAA TGT GAA CAG CTT
V E G K Q L A E E L D H N F E G M E L T E C E Q L

946
TGT AAT CAA AGA TTG AGT GTT TCT GCA AAT GAC TTT AAT TGC AAA GCA TTT ATG TAC AAT AAC CAA ACA AGA TCT
C N Q R L S V S A N D F N C K A F M Y N N Q T R S

1021
TGT ATT CTT TCT GAT GAA CGT TCA AGA CCT TTG GGT AGA GCT AAT TTG ACA GAT GCT AAA GGA TGG ACT TAT CAC
C I L S D E R S R P L G R A N L T D A K G W T Y H

1096
GAG AAA AAA TGT TTT GCC TCC CCA CGT ACA TGC CGA AAT GTT CCT TCT TTT ACC CGC GTC CCT CAA ATG TTA TTA
E K K C F A S P R T C R N V P S F T R V P Q M L L

1171
GTT GGA TTT GCC TCT TTT GTA ATG GAA AAT GTC CCT TCA GTA ACT ATG TGT TTG GAT CAA TGT ACA AAT CCT CCC
V G F A S F V M E N V P S V T M C L D Q C T N P P

1246
CCA GAA ACT GGA CAA AGT TTT GTT TGT AAA TCT GTC ATG TAT TAT TAT AAT GAG CAA GAA TGT ATT TTA AAT GCT
P E T G Q S F V C K S V M Y Y Y N E Q E C I L N A

1321
GAA TCA CGT CAT TCC AAG CCA GAT TTA TTT ATT CCC GAA GAA GAC GAT TTT GTT GTA GAT TAT TTT GAT ATA AAT
E S R H S K P D L F I P E E D D F V V D Y F D I N

1396
TGC CGT CTA GAA CAA GAA CAA TGT ATC GAT GGA AGA ACG CCC CAA TTA GTT AGA ACA ATT AAT TCT GCA CTT CCA
C R L E Q E Q C I D G R T P Q L V R T I N S A L P

1471
GAA GGG GAG GGG TCT ATA CAT GTT TTG GAA ACA ATT AAG GGA GGA GTT CAG CAA TGT GCT AAA AAA TGT TCT GAA
E G E G S I H V L E T I K G G V Q Q C A K K C S E

1546

FIG. 3A

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CGC GCC CCA GAC AAA TGT CGC TCT TTC AAT TTT GAT AAA CAA GCT GGT AAT TGT AAT TTA CTT TAT TTG GAT GGA
R A P D K C R S F N F D K Q A G N C N L L Y L D G
1621
CAA GGG TCT TTA CGA CCA GAG CAA AAG ACA CAA TTC GAT TTA TAC GAT GTT CAT TGT TTG AGT GGA ACA TCT CAA
Q G S L R P E Q K T Q F D L Y D V H C L S G T S Q
1696
CTT TTA GGA GAA AAT TCT AAA CAT TCT CCC TCT GCT TGT GTT GAC CCA GAA GGG GCT ATT TTT AGT CGT TTC CTC
L L G E N S K H S P S A C V D P E G A I F S R F L
1771
TAC ACT CGT TGG GTA GCA AAT TCT CCC AAT CGT GAA ATT TCA AGT TTA CCA CTT TCC AAA TGT TTA AAT CTT TGT
Y T R W V A N S P N R E I S S L P L S K C L N L C
1846
TCG GTT GGA GGA GAA CAA TGT GAG GGT GTT AAT TAC AAT CGC CGA AAT GGT TCT TGT CAA TTA TTT ACT TCC CTT
S V G G E Q C E G V N Y N R R N G S C Q L F T S L
1921
CTA TTA AAC TCT TCT CCA AAT TCT CAA CAA GAC AAA GAC GAA CAT GTT GAT TTT TAC AGA AAT ATT TGT AGA GTT
L L N S S P N S Q Q D K D E H V D F Y R N I C R V
1996
AAG GAA TCG AAA AGT GAT AGT GGG GCT GCT AAT GTA CCC AAA ACA CAA CAA GCA ACG GCT GCA CCT CCC CCT TCT
K E S K S D S G A A N V P K T Q Q A T A A P P P S
2071
GTT CAA TTA ACT ACT AAA CCT CCA CAA ATT CGT GAT TTA AAC AAC AAC AAT AAA ACA ACA CAC AAA GAA CCA AAT
V Q L T T K P P Q I R D L N N N N K T T H K E P N
2146
ATT AAA CTT CCA CCA CAA TCA GCA AAA CCT ATA AAT GGA AAA ACT GGA AAG GAA CAA CTT CCT GTA GGG TCA AAA
I K L P P Q S A K P I N G K T G K E Q L P V G S K
2221
TCT TTT GGG GTT ACT AAT ACG CGT GAT GAT GGG GAG AAT TCA ATA ACT GGA ACT GCT CCT CCT CCT GTA GAT GGC
S F G V T N T R D D G E N S I T G T A P P P V D G
2296
AAA TTA ATT ATT AAA CCT TCA CCA CAA GTT TCT ATT CCC TCC CCT GTA CTT ATT CCG GCA CAA GAA GTA CAT ACT
K L I I K P S P Q V S I P S P V L I P A Q E V H T
2371
ATT TGT AAT TAT GAA GGA ATT AGT GTT CAA ATT AAA CAT TCT TCT CCA TTC TCT GGC GTT GTT TTT GTT CGA AAT
I C N Y E G I S V Q I K H S S P F S G V V F V R N
2446
AAA TAT GAT ACT TGC CGT GTG AAG TTG AAG GAA AGG ACA GCG TTG TTT TGG TTT TGG GGC TTC CAG CAA ATT TTG
K Y D T C R V K L K E R T A L F W F W G F Q Q I L
2521
GAA ATG AAG CCA ATT GCT TTA ATT AAT TCA CAA AAA CAT GGA AAA GGG AAT AAA ACA CAC GGA GAT ACT TTA CTT
E M K P I A L I N S Q K H G K G N K T H G D T L L
2596
TCT ATT GAA GGT TCC AAA AAA CAA ATT GAA GGG GGT TCT TCA ACT GAA GAT ATT CAA TTA ATA AAT TCT CAA AAA
S I E G S K K Q I E G G S S T E D I Q L I N S Q K
2671
GAC CTT AAA CGT TCA AGA AGA CAA TTA CAA AGA GAT TGT GGA TTA CAA GAT ATG GAC AAT GGA ACT TAC AAA ACT
D L K R S R R Q L Q R D C G L Q D M D N G T Y K T
2746
GTT ATT GTT GTC CAA ACA AAT AAT TTG GGA ATT CCG GGA CTT GTT ACT TCT ATG GAC CAA CTT TAT GAG ATT TCC
V I V V Q T N N L G I P G L V T S M D Q L Y E I S
2821
TGT AAC TAT TCA AGT ATG TTG GGA GGC AAA GTC CAA ACA GCA GCT GCA TTA CGT GTT CAC GGT CCC CAA CCT TCA
C N Y S S M L G G K V Q T A A A L R V H G P Q P S
2896
CTA ATC CAG CCT CGC GGC AAA ATA GAA TTG GGA AAT CCT GTT TTG ATG CAA ATG GGG CCT GTA CGT AGT GAA AGG
L I Q P R G K I E L G N P V L M Q M G P V R S E R
2971
CAA AGT GGG GAA GGG CCT TTA ATT CAA GCT AAA TTG GGG GAT ATT CTT GAA TTA AAA TGG GAA ATT ATG GCA ATG
Q S G E G P L I Q A K L G D I L E L K W E I M A M
3046
GAT GAA GAA TTG GAC TTT TTA GTT CGT GAT TGT TTT GCA GAG CCG GGA ACT TCT GGA AAT CAA GGG GAA AGA CTT
D E E L D F L V R D C F A E P G T S G N Q G E R L

FIG. 3B

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3121
CCT TTA ATT GAG AAT GGT TGT CCA ACA CCA GCA GTA GCA CAA AAA TTA ATT CCA AAT CCA ATA AAA GCA ATT AAT
P L I E N G C P T P A V A Q K L I P N P I K A I N
3196
TCT GCA GTT AAA TTA ACT TAT TTA CAA GCA TTC AGA TTT GAC AGT TCT CCA GCT ATT AGA ATA ACT TGT CAT TTA
S A V K L T Y L Q A F R F D S S P A I R I T C H L
3271
GAA TTA TGT AAA GAA AAT TGT AAA TCG GTT AAT TGT AAA TTT AAT GAT GGA ATT AAA GAA TCG TGG GGC AGA AAA
E L C K E N C K S V N C K F N D G I K E S W G R K
3346
CGC CGT TTT GCT ATT GAC AAT AAC ATT AAT AGG AAA AAT GAA GTT AAA GAA TTC GAA ACT CGC CGT TTT GTC GTT
R R F A I D N N I N R K N E V K E F E T R R F V V
3421
CCC CGT TTT GCC CAA GCA ACA ACT TCT TTA GTT ATT GTA GAC CCT TTA CAA CAA CAA AAT TCT GTT ATA AAA ACA
P R F A Q A T T S L V I V D P L Q Q Q N S V I K T
3496
GAA CAA CAA CAA CAA CCA TTT ATT TCA CAT TCC TCA ATA TCT AAA CAA ATA TTT GAA AAT AAT AAA AAA GAA AAT
E Q Q Q Q P F I S H S S I S K Q I F E N N K K E N
3571
AAT AAA AAT ATA ACA AAA ACA GCT AAA AAA TCC TCT TCT CTT TTT GAA GCT TTT ACT GAG GCT GCT GGT GGA AGG
N K N I T K T A K K S S S L F E A F T E A A G G R
3646
AAA ATT AAT TTA GAA TTA ACA ACA ACA AAT TCA GAA CAA CAA CAA CTT TGT TTA CAT AAA TGG ACA CTT GGG GGT
K I N L E L T T T N S E Q Q Q L C L H K W T L G G
3721
GTT TTT GGA ACT CTT TTA ACA TTA ATT GTT GTT CAA AGC GGG GTT GCT GCT AAA CAT TTA ATT AAT CGA TTT ATT
V F G T L L T L I V V Q S G V A A K H L I N R F I
3796
GTT GGA AAA AGA ATT TAAaaaaaaaaaaaaaagtactagtcgacgctggcc
V G K R I

FIG. 3C

1
 GAG CAG AAG ATT TTG GTG GGT TTC GCG CGG GAG GTG GTC TCC GCC GAC TCA GTC CAC CGC TGT CTG
 E Q K I L V G F A R E V V S A D S V H R C L
 67
 TCC GCT TGT CTG AAT GCG TTC GAT ACG TTC GGC TTC GAA TGC GAG TCG GTC ATG TAT TAC CCT GTG GAC GCG GAA
 S A C L N A F D T F G F E C E S V M Y Y P V D A E
 142
 TGC ATT TTG AAC ACG GAG GAC CGA TTG GAT CGG CCT GAC CTT TTC GTG GAC GAG CAC GAG GAC ACG GTC ATC TAC
 C I L N T E D R L D R P D L F V D E H E D T V I Y
 217
 TTG GAC AAC AAT TGC GCC GGA TGT GAG TGC CAT TGG CAT TTT GAC AAT TTC AAA ACA AGC GGC ATT TTG AAC GAC
 L D N N C A G C E C H W H F D N F K T S G I L N D
 292
 CAA CAA TTC GCA ATT GCA GCA CAA TGT TAC GCA CCG TAC GTA ACG CAA TAC GTG GCG GTG GAA GGA CGC CAA TTG
 Q Q F A I A A Q C Y A P Y V T Q Y V A V E G R Q L
 367
 TCG GAC GAA TTG GAC CAC AGT TTT GAA GGG TTG GAG CTG AGC GAA TGT GAA GAG TTG TGC ACG CAA CGG TTA AGT
 S D E L D H S F E G L E L S E C E E L C T Q R L S
 442
 GTT ACG GCA AAC GAC TTC AAC TGC AAA TCG TTC ATG TAC AGT AAC TTG ACG CGC AGT TGC GTT TTG TCG GAC GAA
 V T A N D F N C K S F M Y S N L T R S C V L S D E
 517
 CGC TCG CGC CCT TTG GGC CGT GCC AAT TTG GCC GAA GTG CCG GGA TGG ACT TAT TTC GAG AGC CGC GGC GTT CCG
 R S R P L G R A N L A E V P G W T Y F E S R G V P
 592
 TCG TTT ACG CGA GTG CCG CAA ATG CTT TTG GTG GGC TTT GCC TCT TTT GTG ATG GAA AAT GTG CCG TCA GTG ACA
 S F T R V P Q M L L V G F A S F V M E N V P S V T
 667
 ATG TGT TTG GAC CAA TGC ACA AGC CCT CCT CCT GAG ACG GGA CAA AAC TTT GTG TGT AAA TCG GTG ATG TAC TAC
 M C L D Q C T S P P P E T G Q N F V C K S V M Y Y
 742
 TAC AAC GAG CA
 Y N E

FIG. 4

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1
cgactggagcagcaggacactgacatggactgaaggagtagaaaatttctgttggttcatttcttatcagactgtcccattcatcatcgtagaccactacca
101
gtattacttcaggacagtaaatattcgggtaaatttcggctgctcaatcggtaggaccgctttaat ATG CAT CTT TCC AAC CAT GCC TCA
M H L S N H A S
190
TCA CTT CTG CAT TAC TAT TCA CAT CTC ATC ATA ATT GCA TAC TTT TCT GTA TTT GCT TCA ATC GAA ATA CAA GAA
S L L H Y Y S H L I I I A Y F S V F A S I E I Q E
265
ATT CCA TCA TAT CCA GCA TGT AGC AAT GGC GAA TCA CCT GTC TTT TTA CTC CAA CAC AAT GCT ACA GCA GGT AAT
I P S Y P A C S N G E S P V F L L Q H N A T A G N
340
GTT CTG AAG CGA GCT TCA ACT TCA CAT CTG GTC GAC TGC ACT GAC CTT TGT TCA GCT AAC GAT GAA TGT TTG GCG
V L K R A S T S H L V D C T D L C S A N D E C L A
415
ATA ACC TAT GAA GAT AAA GAA TGC AAA ATG TTG TCA AGC ATT GGA GAA TCG ACA GGA CAT TTA AAT GAT TAT GTA
I T Y E D K E C K M L S S I G E S T G H L N D Y V
490
TTG CTG AGT AAA AAT TGT GCT AAA AGT GCG CGG ATC TGC TCA TCG CCA TTT CAA TTC GAT GTA CAC AGA CAA AAA
L L S K N C A K S A R I C S S P F Q F D V H R Q K
565
ATT TTG GTT GGG TTT GCT CGC GAG GTT GTG TCA GCT GAT TCA TTA TCG TTA TGT CTA TCA GCT TGC TTG AAT GCA
I L V G F A R E V V S A D S L S L C L S A C L N A
640
TTT GAT TCT TTC GGT TTT GAA TGT GAG TCG GTA ATG TAC TAT CCA GTT GAT TCA GAA TGC ATC CTA AAC ACC GAA
F D S F G F E C E S V M Y Y P V D S E C I L N T E
715
GAT CGT CTG GAT CGA CCT GAC TTG TTT GGG GAT GAA TTA GAT GAT AAC GTC ATT TAT TTG GAT AAC AAC TGT GCT
D R L D R P D L F G D E L D D N V I Y L D N N C A
790
GGA TCA CAG TGT TAT GCT CCA TAC ATA ACA CAA TAC ATT GCC GTC GCA AAT CGT CAG CTA GCT AAC GAG TTG GAC
G S Q C Y A P Y I T Q Y I A V A N R Q L A N E L D
865
AGA CAA CTG ATC GCT GAT CGT GAA TCA TGC GAG TCG TTA TGT ACT CAG CGA CTG TCT ACA ACG ACA AAC GAT TTC
R Q L I A D R E S C E S L C T Q R L S T T T N D F
940
AAC TGT AAA TCA TTT ATG CAT AAT CCG GAA ACT AAC GTT TGC ATA CTT TCT GAT GAA CGT TCT AAA CCA CTT GGT
N C K S F M H N P E T N V C I L S D E R S K P L G
1015
CGA GGC AAT CTA GTG AAA GCT GAC GGT TTC ACA TAT TAT GAG AAG AAA TGT TTT GCA TCA CCA CGA ACA TGT CGC
R G N L V K A D G F T Y Y E K K C F A S P R T C R
1090
AAT GTA CCG TCG TTT GAG CGC ATA CCT CAG ATG ATA CTT GTT GGT TTT GCT GCA TTT GTT ATG GAA AAT GTA CCT
N V P S F E R I P Q M I L V G F A A F V M E N V P
1165
TCA GTA ACG ATG TGC CTC GAT CAG TGC ACA AAT CCT CCA CCG GAA ACT GGA GAA AAT TTC GAA TGC AAA TCT GTG
S V T M C L D Q C T N P P P E T G E N F E C K S V
1240
ATG TAT TAT TAT AAC GAA CAG GAA TGT ATT TTA AAC GCT GAA ACA CGA GAA AAT AAA TCG GAA TTG TTT ATA CCG
M Y Y Y N E Q E C I L N A E T R E N K S E L F I P
1315
GAG GGA GAA GAA TTC CAA GTC GAT TAT TTT GAT ATC ACT TGT CAT CTG CGC CCT GAA ACA TGT CCA AAT GGC ACA
E G E E F Q V D Y F D I T C H L R P E T C P N G T
1390
ACA TTA CAT ACT GTA CGT ACG GTT AAT GCA GCA CTC CCT GAA GGC GAA GGA TCG ATC CAT ATT TTG CAG TCA GCC
T L H T V R T V N A A L P E G E G S I H I L Q S A
1465
GGG AAT TCG GTT GCT GAT TGC ATG ACA AAA TGT TAC GAG ATG GCT CCC GAG AAA TGT CGC GCA TTC AAT TTT GAT
G N S V A D C M T K C Y E M A P E K C R A F N F D

FIG. 5A

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1540
AAG CAG ACA TCT GAC TGT GAC CTG CTG TAC GTT GAT GGG AAG ACA ACC TTA CGA CCA GCA GTC CAC TCG GGC ATT
K Q T S D C D L L Y V D G K T T L R P A V H S G I
1615
GAT CTC TAC GAC CTT CAT TGC CTA GAG CAG ACA AAA GTT TGC GCT CAG AAA AAC AAC GTA ACA CGA TTT TCG AGA
D L Y D L H C L E Q T K V C A Q K N N V T R F S R
1690
TAT TTG TAC AGT ATA TAT GAT GCA GTG CCA TCG CAA TTC TAC GAA GCA ACT GCC CTC ACA AAT TGT CTT AAT CTT
Y L Y S I Y D A V P S Q F Y E A T A L T N C L N L
1765
TGC GCA TAT ACC GAG CGT TGC GAA GGT GTA AAT TAC AAC AGA AGG AAT GGT CGT TGT GAA TTA TTT GAT AAG GTC
C A Y T E R C E G V N Y N R R N G R C E L F D K V
1840
GAA GGA AAT GGA AAG CCA AGT GAT TTC ACG GAT TTT TAC AAA AAT CTT TGT CTG GTG GAA GAA GTA GAA TCA GAA
E G N G K P S D F T D F Y K N L C L V E E V E S E
1915
TAT AGC GCC GCA GCT AAT GTT CCC AAA CAT CTC CTT CCG AAT GTT TCA CAT TCT GCA GTT ACT CAG AAA CAA GAA
Y S A A A N V P K H L L P N V S H S A V T Q K Q E
1990
GCT AAA TTA CAC ATT ATC TCA GCA AAA ACA AAG CCT TTC CTA CGC GAA CAG GAA GCA CAG CGA CGA GCT CCA GAA
A K L H I I S A K T K P F L R E Q E A Q R R A P E
2065
ACA ATA ACA GCG AAG TCG TCT TCA GCT TCC GGA AAA GTA AGT GGT GAA GCA GGA TCA TCA ACT ACA TTC AGC ATT
T I T A K S S S A S G K V S G E A G S S T T F S I
2140
TCT TCA TCC GGA AGG CTT CCA GGG CCA GTA GTC CAA ATT GCT CCA AAT GCA GTG CAA ACA GTT TGC AAT TAT GAA
S S S G R L P G P V V Q I A P N A V Q T V C N Y E
2215
GGC ATC AAA GTG CAG ATG GAG AAC CCC AAA GCC TTT TCG GGA GTG ATA TTT GTT AAA AAT AGG TAT GAA ACC TGT
G I K V Q M E N P K A F S G V I F V K N R Y E T C
2290
CGA GTA GAG GTT ACG GAT AGT GAA AGT GCA CCA CTA GTA ATT GGT TTA CCA CCG AAT TTT GGT TCA AAA ATG GTA
R V E V T D S E S A P L V I G L P P N F G S K M V
2365
GCT GAT GAA AAG GTT GCC GCA AGC GAA GCA AAT ATT CAA CCA GAA ATA TCC GGA GGC GAC AAA CTG GAT AAA CCC
A D E K V A A S E A N I Q P E I S G G D K L D K P
2440
GCT GAT GAA CTG CGC ATA AGA CGA CAA GCT TTA GAG CTA CAC AGA GAT TGC GGA ATC CAG GAT ATG AAC AAT GGT
A D E L R I R R Q A L E L H R D C G I Q D M N N G
2515
ACT TAT AAA TCA ACG GTG GTT GTA CAA ACA AAT AAC TTG GGT ATA CCT GGA CTG GTA ACT TCC ATG GAT CAG ATT
T Y K S T V V V Q T N N L G I P G L V T S M D Q I
2590
TTT GAA GTG AGC TGT GAT TAT AGT TCA ATG CTT GGT GGA AAA GTT ACT GCT GGT GCC AAT CTC ACA ATT GAT GGT
F E V S C D Y S S M L G G K V T A G A N L T I D G
2665
CCC GAA GCA TCT CTT ATT CAA CCC CGA GGA AAA ATC GAA CTT GGT AAC CCG GTG CTT ATG CAG ATG TTG AGT GGA
P E A S L I Q P R G K I E L G N P V L M Q M L S G
2740
CAA GGA GAA CCT GTC CTA CAA GCA AAA CTA GGT GAC ATT CTG CAG CTA CGA TGG GAA ATC ATG GCG ATG
Q G E P V L Q A K L G D I L Q L R W E I M A M

FIG. 5B

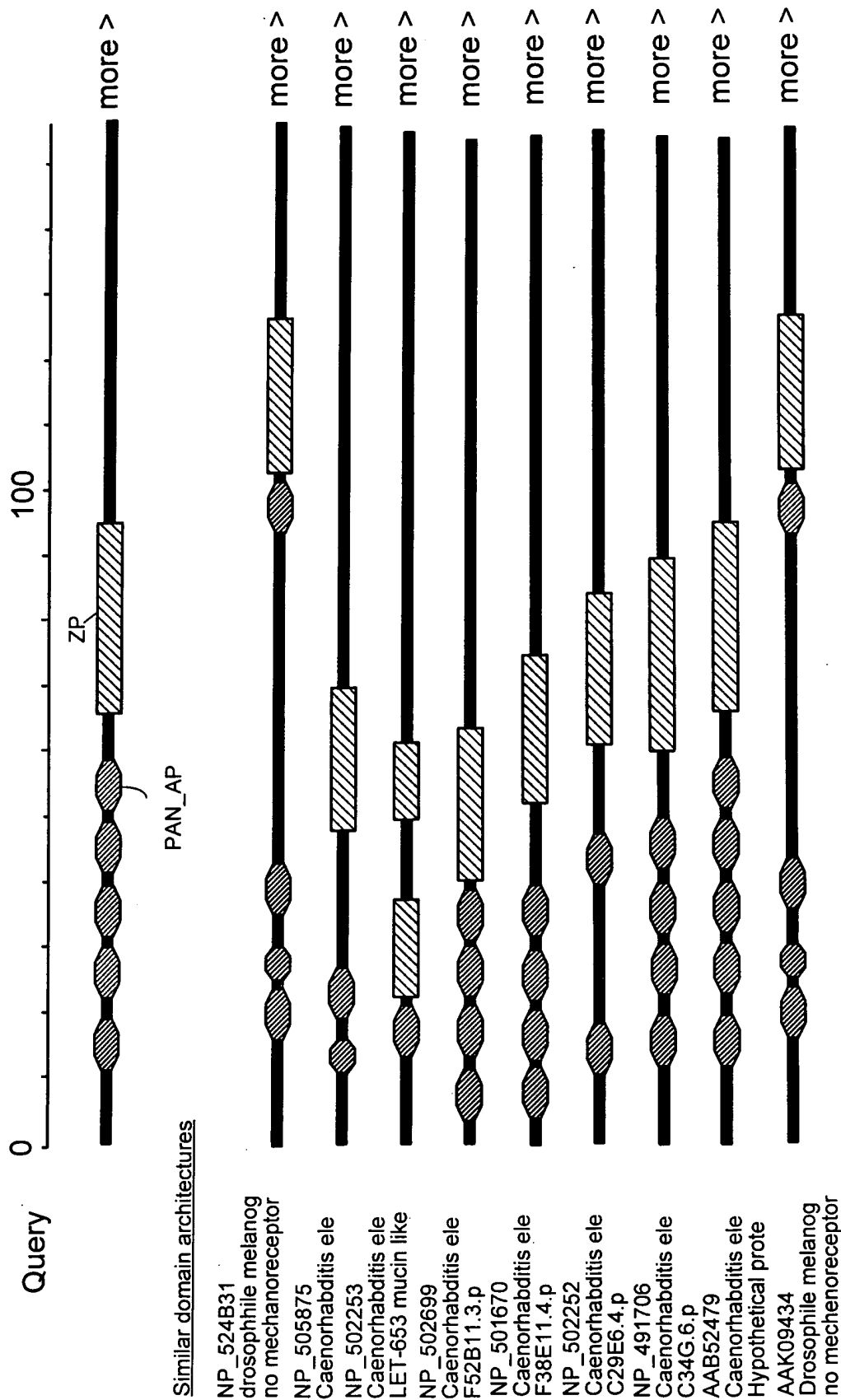


FIG. 6

SEQ ID NO 10 MVTKIPFPLFFPLFTKQA-----YSIPLISECNSEAPVFLQQRNVSSIAETPLRTVPTGGFLEAELCSAANNVAVKFSIEKQCOLLGGTWTATLTLQDINLTARLAKSCVKSX 126
SEQ ID NO 11 -----MKVPAVLAVASVLA-----DTLPSTVLCPPETQTFVLQHN-----TTVG-ARIRIPTSN-LAECSDHCSASLDCCQVEFK-DGSCAVFRAGSE-----KATAGS-----QLLTKTCVKSD 101
SEQ ID NO 16 -----MKVPAVLAVASVLA-----DTLPSTVLCPPETQTFVLQHN-----TTVG-ARIRIPTSN-LAECSDHCSASLDCCQVEFK-DGSCAVFRAGSE-----KATAGS-----QLLTKTCVKSD 101
SEQ ID NO 17 -----MKVPAVLAVASVLA-----DTLPSTVLCPPETQTFVLQHN-----TTVG-ARIRIPTSN-LAECSDHCSASLDCCQVEFK-DGSCAVFRAGSE-----KATAGS-----QLLTKTCVKSD 101
SEQ ID NO 45 -----MKVPAVLAVASVLA-----DTLPSTVLCPPETQTFVLQHN-----TTVG-ARIRIPTSN-LAECSDHCSASLDCCQVEFK-DGSCAVFRAGSE-----KATAGS-----QLLTKTCVKSD 112
SEQ ID NO 3 -----MKSGLHLVAYILGFLISTNIA-----SKISGVLNCKDTPFTLQHN-----STVG-ILARSLPQSG-LIDSEHSSSSDCIGVEYH-QGICRVISODKTSIYPTDTS-----LLTKSCVKSX 118
SEQ ID NO 12 MHLNHASSLHYYSHLIIAYFSPASIEIQIPSPACNGESPVLQHN-----ATAGNVLUKR-ASTSHLVDCITDLSANDECLAITE-DRECKMLSIGES--TGHLDY-----VLLSKNCAKSA 118
ruler 1.....10.....20.....30.....40.....50.....60.....70.....80.....90.....100.....110.....120.....130
SEQ ID NO 10 KICSPPHFDVHEQKILVGFAREVSAESIHCULTACLDVDTGFECESVNYYPDLDAECILNTERDLRDPDLFVDEKEDTVVLDNNCAG-----SQCCHAPYVTVYVAVE 232
SEQ ID NO 11 -----EQKILVGFAREVSAESIHCULTACLDVDTGFECESVNYYPDLDAECILNTERDLRDPDLFVDEKEDTVVLDNNCAG-----SQCCHAPYVTVYVAVE 232
SEQ ID NO 16 RVCOSPPQFDLFEQRIILVGFAREVPAANIQCMAACLNAPDTGFECESAMFYVDQECILNTERDLRPSLFVEESDDTVYMDNCCAGFPFLVFNK-----YNYQKTFPSKSCQCPYPIYQYIAVE 224
SEQ ID NO 17 RVCOSPPQFDLFEQRIILVGFAREVPAANIQCMAACLNAPDTGFECESAMFYVDQECILNTERDLRPSLFVEESDDTVYMDNCCAGFPFLVFNK-----YNYQKTFPSKSCQCPYPIYQYIAVE 224
SEQ ID NO 45 RVCOSPPQFDLFEQRIILVGFAREVPAANIQCMAACLNAPDTGFECESAMFYVDQECILNTERDLRPSLFVEESDDTVYMDNCCAGFPFLVFNK-----YNYQKTFPSKSCQCPYPIYQYIAVE 224
SEQ ID NO 3 RVCOSPPQFDLFEQRIILVGFAREVPAANIQCMAACLNAPDTGFECESAMFYVDQECILNTERDLRPSLFVEESDDTVYMDNCCAGFPFLVFNK-----YNYQKTFPSKSCQCPYPIYQYIAVE 218
SEQ ID NO 12 RVCOSPPQFDLFEQRIILVGFAREVPAANIQCMAACLNAPDTGFECESAMFYVDQECILNTERDLRPSLFVEESDDTVYMDNCCAGFPFLVFNK-----YNYQKTFPSKSCQCPYPIYQYIAVE 224
ruler140.....150.....160.....170.....180.....190.....200.....210.....220.....230.....240.....250.....260
SEQ ID NO 10 GKQAEELDHPEGMELTECEQLCNRQLSVSANDFNCKA FMYNNQTRSCILSDERSRPLGRANLTDKCGTYHEKKCFASPRTRVPMILVGFAS FVENVPSVMTCLDQCTNPPPETGQSF 362
SEQ ID NO 11 GRQLSDELHDFEGLESECELCQRLSVTANDFNCKS FMYNNQTRSCILSDERSRPLGRANLTDKCGTYHEKKCFASPRTRVPMILVGFAS FVENVPSVMTCLDQCTNPPPETGQSF 362
SEQ ID NO 16 GKQKNELDR-IINVDLSCQALCTQRLSISSNDFNCKSPMYNNKTRTCILADERSKPLGRADLIATEGFTYFEKKCFASPNTRVPMILVGFAS FVENVPSVMTCLDQCTNPPPETGQSF 353
SEQ ID NO 17 GKQKNELDR-IINVDLSCQALCTQRLSISSNDFNCKSPMYNNKTRTCILADERSKPLGRADLIATEGFTYFEKKCFASPNTRVPMILVGFAS FVENVPSVMTCLDQCTNPPPETGQSF 353
SEQ ID NO 45 GKQKNELDR-IINVDLSCQALCTQRLSISSNDFNCKSPMYNNKTRTCILADERSKPLGRADLIATEGFTYFEKKCFASPNTRVPMILVGFAS FVENVPSVMTCLDQCTNPPPETGQSF 352
SEQ ID NO 3 NKQIENELDRPFENIDPQCEELCTGRITWTQNDFTCKSPMYNNKTRTCILADERSKPLGRADLIATEGFTYFEKKCFASPNTRVPMILVGFAS FVENVPSVMTCLDQCTNPPPETGQSF 348
SEQ ID NO 12 NRQLANELDR-QLIADERSCELCQRLSISSNDFNCKSPMYNNKTRTCILADERSKPLGRADLIATEGFTYFEKKCFASPNTRVPMILVGFAS FVENVPSVMTCLDQCTNPPPETGQSF 353
ruler270.....280.....290.....300.....310.....320.....330.....340.....350.....360.....370.....380.....390
SEQ ID NO 10 VKKSMYYTNEQECILNAESRHSKPDLPFIPEDDFVVDYFDINCKLEQECIDGTPQLVTRINSALPEGESEIHVLET-IKGVQQAQCAKCSERAPDKCRSFNFDKQAGNCNLLYLDGQSLPEQTKQ 491
SEQ ID NO 11 VKKSMYYTNEQECILNAESRHSKPDLPFIPEDDFVVDYFDINCKLEQECIDGTPQLVTRINSALPEGESEIHVLET-IKGVQQAQCAKCSERAPDKCRSFNFDKQAGNCNLLYLDGQSLPEQTKQ 491
SEQ ID NO 16 VKKSMYYTNEQECILNAESRHSKPDLPFIPEDDFVVDYFDINCKLEQECIDGTPQLVTRINSALPEGESEIHVLET-IKGVQQAQCAKCSERAPDKCRSFNFDKQAGNCNLLYLDGQSLPEQTKQ 483
SEQ ID NO 17 VKKSMYYTNEQECILNAESRHSKPDLPFIPEDDFVVDYFDINCKLEQECIDGTPQLVTRINSALPEGESEIHVLET-IKGVQQAQCAKCSERAPDKCRSFNFDKQAGNCNLLYLDGQSLPEQTKQ 483
SEQ ID NO 45 VKKSMYYTNEQECILNAESRHSKPDLPFIPEDDFVVDYFDINCKLEQECIDGTPQLVTRINSALPEGESEIHVLET-IKGVQQAQCAKCSERAPDKCRSFNFDKQAGNCNLLYLDGQSLPEQTKQ 482
SEQ ID NO 3 VKKSMYYTNEQECILNAESRHSKPDLPFIPEDDFVVDYFDINCKLEQECIDGTPQLVTRINSALPEGESEIHVLET-IKGVQQAQCAKCSERAPDKCRSFNFDKQAGNCNLLYLDGQSLPEQTKQ 477
SEQ ID NO 12 ECKSMYYTNEQECILNAESRHSKPDLPFIPEDDFVVDYFDINCKLEQECIDGTPQLVTRINSALPEGESEIHVLET-IKGVQQAQCAKCSERAPDKCRSFNFDKQAGNCNLLYLDGQSLPEQTKQ 492
ruler400.....410.....420.....430.....440.....450.....460.....470.....480.....490.....500.....510.....520

FIG. 7A

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SEQ_ID	NO	10	FDLYDVHCLSG	TSQLLGENSKHSPS	ACVDPEGAIFSRPLRYRWVANSNREISSIPLSKLCLNSCVGGQCEGVNRRNGSQCLFTSLLLNSPNSQDKEHVDVFNRI	CRVKESKS	DSGA	614							
SEQ_ID	NO	11	VDLYDLHCLA	VENDCSANKDD	ALFSRYLTK	ORGIPAKYKVVSLSCLVC	AGNPFCAGANNRRLDGCTLPDA	IDDAAEIN	EHDTDFYKNCLVTK	KEIDTGASAA	588				
SEQ_ID	NO	16	VDLYDLHCLA	VENDCSANKDD	ALFSRYLTK	ORGIPAKYKVVSLSCLVC	AGNPFCAGANNRRLDGCTLPDA	IDDAAEIN	EHDTDFYKNCLVTK	KEIDTGASAA	592				
SEQ_ID	NO	17	VDLYDLHCLA	VENDCSANKDD	ALFSRYLTK	ORGIPAKYKVVSLSCLVC	AGNPFCAGANNRRLDGCTLPDA	IDDAAEIN	EHDTDFYKNCLVTK	KEIDTGASAA	591				
SEQ_ID	NO	45	FDVLDLOCLS	TKDKCSTKKNDIN	FVKVLYSFVLYSQ	QFGIPTEKTVIGISKCLDLC	TDSCBGLNRRRTGECQLFPIIDGSPNLKK		SEHIDFYKNCLST	KENEAGVSSA	592				
SEQ_ID	NO	3	FDVLDLOCLS	TKDKCSTKKNDIN	FVKVLYSFVLYSQ	QFGIPTEKTVIGISKCLDLC	TDSCBGLNRRRTGECQLFPIIDGSPNLKK		SEHIDFYKNCLST	KENEAGVSSA	587				
SEQ_ID	NO	12	IDLYDLHCL	QTKVCAQKNN	VTFRSYLYSI	YDAVPSQVPEATALNCLNC	AYTERCEGVNRRNGRCLFDPKENGKPS		DFDTDFYKNCLCLVE	VEVESYSA	650				
SEQ_ID	NO	530	550	540	560	570	580	590	600	610	620	630	640	650	ruler
SEQ_ID	NO	10	ANVPKTOQAT	AAPPSVQLTK	PPQIRDNN	NNKTHKEPNIKLPPQ	SAKPINGKTGEQLPVGSKSPGVNTNRDDG								691
SEQ_ID	NO	11	ANVPET	KHVSCT	VVEGKDS	KSQLLATKKVKPTIK	NTE	HRRAPES							250
SEQ_ID	NO	16	ANVPET	KHVSCT	VVEGKDS	KSQLLATKKVKPTIK	NTE	HRRAPES							634
SEQ_ID	NO	17	ANVPET	KHVSCT	VVEGKDS	KSQLLATKKVKPTIK	NTE	HRRAPES							638
SEQ_ID	NO	45	ANVPET	KHVSCT	VVEGKDS	KSQLLATKKVKPTIK	NTE	HRRAPES							637
SEQ_ID	NO	3	LNVPQSVIPI	SSQNLSHS	DVFAKNLNDG	NNQVNIYEKPHPK	OSK	NETSYETGTYNKS	NVEVSEVLN						667
SEQ_ID	NO	12	ANVPK	HLLPNVSHS	AVTQGE	AKLHIISAKTPFLR	EQEQRARPETITAKSSASGVKSGEAG								651
SEQ_ID	NO	660	670	680	690	700	710	720	730	740	750	760	770	780	ruler
SEQ_ID	NO	10	ENSTGTAPP	VDGKLIKPSQVSPVLI	PAQEVHTICNYEGISVQIKHSSPGSVVFNKNKYDTCRVKLKERTALFWFGQQILEMXPALINSQKHG										794
SEQ_ID	NO	11	ENSTGTAPP	VDGKLIKPSQVSPVLI	PAQEVHTICNYEGISVQIKHSSPGSVVFNKNKYDTCRVKLKERTALFWFGQQILEMXPALINSQKHG										250
SEQ_ID	NO	16	ENSTGTAPP	VDGKLIKPSQVSPVLI	PAQEVHTICNYEGISVQIKHSSPGSVVFNKNKYDTCRVKLKERTALFWFGQQILEMXPALINSQKHG										715
SEQ_ID	NO	17	ENSTGTAPP	VDGKLIKPSQVSPVLI	PAQEVHTICNYEGISVQIKHSSPGSVVFNKNKYDTCRVKLKERTALFWFGQQILEMXPALINSQKHG										719
SEQ_ID	NO	45	ENSTGTAPP	VDGKLIKPSQVSPVLI	PAQEVHTICNYEGISVQIKHSSPGSVVFNKNKYDTCRVKLKERTALFWFGQQILEMXPALINSQKHG										718
SEQ_ID	NO	3	SGVBSGLEKN	IITAPSIPIPEGLPVLI	PAQVQITICDYEGLKVQIKSPQSTGVIFVKNKHETCRVEVNSDAATLELGLPASFGMPVTLISATSSDS										771
SEQ_ID	NO	12	SGVBSGLEKN	IITAPSIPIPEGLPVLI	PAQVQITICDYEGLKVQIKSPQSTGVIFVKNKHETCRVEVNSDAATLELGLPASFGMPVTLISATSSDS										742
SEQ_ID	NO	810	820	830	840	850	860	870	880	890	900	910	920	930	ruler

FIG. 7B

SEQ ID NO 10	KGNKTHG----	DTLLSIEGSKQIEGGST-EDIQINSQKDKRSRRQIQ-RDCGLQDMNGTYKTVIVQTNNGIPGLVTSMDQLVEISCNYSMLGKGVQVQTAALRVHGPQPSLIQPRGKIELGNP	918
SEQ ID NO 11	-----	-----	250
SEQ ID NO 16	TGKNK----	ETPLKDETEEFROKQAAEFRCGLVLDLLNGTYKSTVV IQTNNGIPGLVTSMDQLVEVSCDYSSMLGGRVQAGYNNMTVTGPEANLIQPRGKIELGNP	823
SEQ ID NO 17	TGKNK----	ETPLKDETEEFROKQAAEFRCGLVLDLLNGTYKSTVV IQTNNGIPGLVTSMDQLVEVSCDYSSMLGGRVQAGYNNMTVTGPEANLIQPRGKIELGNP	827
SEQ ID NO 45	TGKNK----	ETPLKEEIEEFROKQAAEFRCGLVLDLLNGTYKSTVV IQTNNGIPGLVTSMDQLVEVSCDYSSMLGGRVQAGYNNMTVTGPEANLIQPRGKIELGNP	826
SEQ ID NO 3	TSSQN----	ITS-----	873
SEQ ID NO 12	ANIQP----	-----	850
SEQ ID NO 12	ruler	-----	1040
SEQ ID NO 10	VLQMGMVRSRQSGEGLIQAKLGDILELKEWIMAMDEELDFLVRDCFAEPGTS----	GNQGERLPLIENGCTPAVAOKLIPNPIKAINSAVKLTVLQAPRFDSSPAIRITCHLELCKENCKSVNCKFN	1045
SEQ ID NO 11	-----	-----	250
SEQ ID NO 16	VLQOLLN----	GDGTEQPLVQAKLGDILELRWEIMAMDEELDFPVKNCHAEPPGAVGKAGAGEKRLRIDGGCTPAVAOKLIPGAIEIKSSAVKTTKMQAPRFDSSASIRVTCVEIICKGDCPEVCALT	949
SEQ ID NO 17	VLQOLLN----	GDGTEQPLVQAKLGDILELRWEIMAMDEELDFPVKNCHAEPPGAVGKAGAGEKRLRIDGGCTPAVAOKLIPGAIEIKSSAVKTTKMQAPRFDSSASIRVTCVEIICKGDCPEVCALT	953
SEQ ID NO 45	VLQOLLN----	GDGTEQPLVQAKLGDILELRWEIMAMDEELDFPVKNCHAEPPGAVGKAGAGEKRLRIDGGCTPAVAOKLIPGAIEIKSSAVKTTKMQAPRFDSSASIRVTCVEIICKGDCPEVCALT	952
SEQ ID NO 3	VLQMOMNA----	GTGDHQPILQAKLGDILELRWEIMAMDEELDFPVKDCFAEPGTS----	996
SEQ ID NO 12	VLQMOMLS----	GGGEFVLQAKLGDILELRWEIMAMDEELDFPVKDCFAEPGTS----	881
SEQ ID NO 12	ruler	-----	1170
SEQ ID NO 10	DGIKESWGRKRFRFAIDNNINRKNVEKEFETRRFVVPVRFPAQATTSLVIVDPLQQNSVIKTEQQQQPFISHSISKQIFENKKNKNNITKATKSSSLFEAPTEAAGRKINLELTNTNSEQQQLCLHK	1175	
SEQ ID NO 11	-----	-----	250
SEQ ID NO 16	GGVKKSGRKKREVSNN----	IEEFETNRYLIPRRSHATTSIVIIDPLQQVNEPV----	1030
SEQ ID NO 17	GGVKKSGRKKREVSNN----	IEEFETNRYLIPRRSHATTSIVIIDPLQQVNEPV----	1034
SEQ ID NO 45	GGVKKSGRKKREVSNN----	IEEFETNRYLIPRRSHATTSIVIIDPLQQVNEPV----	1033
SEQ ID NO 3	GESKQSWGRKKRHIEDDT----	ITEFETNRYKVPFSQATTSLLIDPLQNNIEPAS----	1085
SEQ ID NO 12	-----	-----	881
SEQ ID NO 12	ruler	-----	1300
SEQ ID NO 10	WTLCGVFPTLTLTIVVQSGVAAKHLINRFTVGRKI--	1210	
SEQ ID NO 11	-----	-----	250
SEQ ID NO 16	VTVPAIFCTLAVLILGOTVVIHAYVRRPSEKTA--	1065	
SEQ ID NO 17	VTVPAIFCTLAVLILGOTVVIHAYVRRPSEKTA--	1069	
SEQ ID NO 45	ITVPAIFCTLAVLILGOTVVIHAYVRRPSEKTA--	1068	
SEQ ID NO 3	ITLPSVFGVLLSVIVVQAVIVTNIYIFKRVMSRKITN	1122	
SEQ ID NO 12	-----	-----	881
SEQ ID NO 12	ruler	-----	1330

FIG. 7C

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